

sensed pressure value so that the wireless stylus 1 achieves better power saving and provides sufficient strength of the wireless signal. For example, when the wireless stylus 1 touches the touch display, the second transmission power level is inversely proportional to the sensed pressure value. In other words, the larger the sensed pressure value, the lower the second transmission power level.

[0025] Moreover, the push-button circuit 108 provides adjustments of the thickness and/or the colors of the hand-writing traces, electronic erasers, and other different functions so that the control circuit 107 uses the signal transmitting circuit 109 to transmit a corresponding wireless signal according to the input of the push-button circuit 108. In one embodiment, the wireless stylus 1 is provided with a battery therein to supply electricity to the circuits in the wireless stylus 1.

[0026] (Power Saving Method for Wireless Stylus)

[0027] Referring to FIG. 4, FIG. 4 is a flowchart of a method for operating a wireless stylus with reduced power consumption according to one embodiment of the present invention. With reference to the wireless stylus 1 in FIG. 1, the method includes the steps as shown in FIG. 4.

[0028] In Step S401, the wireless stylus 1 transmits a wireless signal in a first mode. For example, the control circuit 107 controls the signal transmitting circuit 109 of the wireless stylus 1 to transmit a wireless signal with a first duty cycle.

[0029] In Step S403, the control circuit 107 disposed in the wireless stylus 1 determines whether the wireless stylus 1 is being touched. For example, the control circuit 107 decides whether the head portion 101 of the wireless stylus 1 is being touched according to a sensed pressure value outputted by the pressure sensor circuit 105. In one embodiment, when the sensed pressure value is smaller than a pre-set value, the control circuit 107 determines that the wireless stylus 1 is not being touched. When the sensed pressure value is larger than the pre-set value, the control circuit 107 determines that the wireless stylus 1 is being touched.

[0030] The method goes back to Step S401 when the wireless stylus 1 is determined not being touched in S403.

[0031] When the wireless stylus 1 is determined being touched in S403, the control circuit 107 controls the wireless stylus 1 to transmit a wireless signal in a second mode. For example, the control circuit 107 controls the signal transmitting circuit 109 of the wireless stylus 1 to transmit the wireless signal with a second duty cycle.

[0032] It should be noted that the second duty cycle is shorter than the first duty cycle. Accordingly, when the wireless stylus 1 does not touch a touch display, it indicates that the wireless stylus 1 is distant from the touch display. Therefore, the wireless stylus 1 transmits a wireless signal with a first duty cycle in a normal way. On the contrary, when the wireless stylus 1 touches a touch display, it indicates that the wireless stylus 1 is very close to the touch display. Therefore, the wireless stylus 1 transmits the wireless signal with a second duty cycle to reduce power consumption.

[0033] Moreover, the first mode and the second mode in Step S401 and S405 are exemplified by a first duty cycle and a second duty cycle, respectively. However, in other embodiments, the first mode may be a first transmission power level and the second mode may be a second transmission power level. The second transmission power level is lower than the first transmission power level. For example,

when the wireless stylus 1 is not being touched, the signal transmitting circuit 109 of the wireless stylus 1 transmits a wireless signal at a first transmission power level in a normal way. However, when the wireless stylus 1 is being touched, the signal transmitting circuit 109 of the wireless stylus 1 transmits a wireless signal at a second transmission power level to reduce power consumption.

[0034] (Functions of the Embodiments)

[0035] To sum up, the wireless stylus 1 according to the present invention is capable of transmitting a wireless signal in a normal way when the wireless stylus 1 is distant from a touch display (i.e., the wireless stylus is not being touched) and transmitting a wireless signal with reduced power consumption when the wireless stylus 1 is very close to a touch display (i.e., the wireless stylus is being touched). Thereby, the wireless stylus ensures that the wireless signal is successfully received while exhibiting lower power consumption and longer standby time.

[0036] The above-mentioned descriptions represent merely the exemplary embodiments of the present disclosure, without any intention to limit the scope of the present disclosure thereto. Various equivalent changes, alterations or modifications based on the claims of present disclosure are all consequently viewed as being embraced by the scope of the present disclosure.

What is claimed is:

1. A wireless stylus, comprising:

a stylus tube comprising a head portion;

a pressure sensor circuit disposed in said stylus tube, said pressure sensor circuit outputting a sensed pressure value according to a contact pressure of said head portion;

a signal transmitting circuit disposed in said stylus tube; and

a control circuit disposed in said stylus tube, said control circuit being electrically connected to said pressure sensor circuit and said signal transmitting circuit;

wherein said control circuit controls said signal transmitting circuit to transmit a wireless signal with a first duty cycle when said sensed pressure value is smaller than a pre-set value, and said control circuit controls said signal transmitting circuit to transmit said wireless signal with a second duty cycle when said sensed pressure value is larger than said pre-set value; and wherein said second duty cycle is shorter than said first duty cycle.

2. The wireless stylus of claim 1, wherein said signal transmitting circuit comprises an oscillation circuit, said oscillation circuit transmitting said wireless signal with said first duty cycle or said wireless signal with said second duty cycle according to an oscillation signal.

3. The wireless stylus of claim 2, wherein said signal transmitting circuit further comprises a modulation circuit, said modulation circuit being electrically connected to said oscillation circuit and said modulation circuit generating said oscillation signal according to a modulation signal outputted by said control circuit.

4. The wireless stylus of claim 1, further comprising:

a resilient portion disposed between said head portion and said pressure sensor circuit so that said pressure sensor circuit acquires said contact pressure of said head portion through said resilient portion; and

a push-button circuit electrically connected to said control circuit.